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ABSTRACT

During the 1992-93 academic year, a study was conducted by the American Association of State Colleges and Universities to determine the proportion of students who transfer from two- to four-year colleges after earning an associate's degree, following the traditional "two-plus-two" sequence. A random sample of 50 four-year colleges and universities from 13 states were asked to analyze the transcripts of those students who transferred from community colleges in fall 1991. Study findings, based on information on 15,278 community college transfer students provided by 30 institutions, included the following: (1) 75% of the students remained at a community college long enough to earn at least 49 semester hours, the equivalent of 1.5 years of full-time study, and 57% earned at least 61 semester hours; (2) only 37% earned the associate degree before transferring, indicating that many of the students who earned 60 or more semester hours did not complete degree requirements; (3) students transferring to doctoral institutions were less likely to have earned associate's degree (28%) than students transferring to colleges not classified as doctoral institutions (43%); (4) students lost relatively few credits upon transferring to the baccalaureate-granting institutions; (5) the median number of credits earned was 63, and the median number of credits accepted for transfer by the baccalaureate-granting institutions was 60; and (6) evidence suggests that students who transfer successfully to baccalaureate-granting institutions have relatively high levels of academic ability and are as competent as students who begin their post-secondary careers at four-year institutions. (MAB)

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At What Point Do Community College Students Transfer to Baccalaureate-Granting Institutions?

Evidence from a 13-State Study

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Special thanks to the American Association of State Colleges and Universities for its fine work on this study and to the participating institutions for their extraordinary cooperation.

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INTRODUCTION

The community college contribution to baccalaureate education usually is associated with the first two years of a four-year undergraduate program. Thus, many articulation agreements hinge on the associate's degree, offering recipients of this credential (or its equivalent) junior standing at the university.[1] The underlying assumption is that students seeking to earn a bachelor's degree will follow a "two-plus-two" sequence, completing the upper division at the university after finishing the lower division at the community college.

But what proportion of students who transfer from two-year to four-year colleges actually follow this traditional path? What proportion transfer *prior* to earning an associate's degree? This monograph summarizes the findings of a study conducted during academic year 1992–93 to address these questions. The study was carried out by the research office of the American Association of State Colleges and Universities (AASCU) with support from the National Center for Academic Achievement and Transfer.[2] Fifty randomly selected four-year colleges and universities from 13 states were asked to analyze the transcripts of those students who had transferred to the institutions from community colleges in the fall of 1991.[3] Thirty institutions participated in the study and provided information on more than 15,000 community college transfer students (Table 1, page 2).[4] Using tally sheets designed by the researchers, each college provided frequency distributions of the transfer students in terms of (1) the number of community college semester hours of credit earned prior to transfer, (2) the

Table 1

Sample of Community College Transfer Students by Gender, Ethnicity, and Type of Receiving Institution

(n=15,278)

	Receiving Institution	
	Doctorate Granting	**Non-Doctorate Granting**
Total in Sample	6,101	9,177
Gender		
Female	50%	54%
Male	50%	47%
Total	100%	100%
Ethnicity		
Asian/Pacific Islander	8%	7%
Black	5%	6%
Hispanic	6%	11%
American Indian/Alaskan Native	1%	1%
White, non-Hispanic	80%	75%
Total	100%	100%

number of community college semester hours of credit that were accepted for transfer, and (3) the proportion of transfer students that had earned the associate's degree prior to transfer.[5]

The study's limitations must be kept in mind when considering the findings. First, the results are not derived from a representative national sample of community college transfer students. Rather, an attempt was made to analyze the experiences of community college students transferring to a random sample of 50 baccalaureate-granting institutions in the states that account for a majority of community college enrollments. Thirty colleges participated. Sec-

ond, no attempt was made to verify that the participating colleges actually used transcripts from community colleges while conducting the analysis. Indeed, three colleges could not provide data on the proportion of students who had earned associate's degrees prior to transfer. When asked why, they indicated that they used their computerized student information systems to answer the research questions, not the transcripts themselves. How this may have skewed the data is unknown.

The results, which are offered as tentative hypotheses concerning the ways in which students use community colleges prior to transfer, show considerable variability in the number of credits students earned at community colleges prior to transferring to baccalaureate-granting institutions. However, three general trends emerged:

- The students' exposure to the community college was substantial; most (75 percent) stayed at the community college long enough to earn at least 49 semester hours, the equivalent of one and one-half years of full-time study.

- Thirty-seven (37) percent earned the associate's degree before transferring. Students transferring to institutions classified by the Carnegie Foundation for the Advancement of Teaching as doctoral institutions were less likely to have earned the associate's degree than students transferring to colleges or universities not classified as doctoral institutions.[6]

- The students lost relatively few credits upon transferring to the baccalaureate-granting institutions.

With only slight variations, these findings held for all students, regardless of gender and ethnicity. Major findings are described in this document.

Credits Earned at the Community College

Data on the number of community college credits (semester hours) earned by the students prior to transfer are provided in Tables 2 and 3 (pages 6, 8). Approximately half of the students had earned 63 or more semester hours of credit before transferring. Variations in the median number of semester hours earned by gender, ethnicity, and type of receiving baccalaureate institution (doctoral versus non-doctoral) were small, with medians ranging from 60 to 64.

Though the range of semester hours earned on a student-by-student basis was wide (from one to more than 100), two-thirds of the students had earned between 49 and 84 semester hours at the community college before transferring. Only a small number of students transferred with either fewer or more credits. A mere 3.6 percent had earned fewer than 12 units, the credit-hour threshold utilized by colleges participating in the Transfer Assembly Project to calculate transfer rates for first-time community college students.[7] Black students, who earned slightly fewer semester hours on average than other students, were more likely to transfer with a small number of credits. Approximately 8 percent had earned fewer than 12 semester hours.

Because community colleges are two-year institutions, it is interesting that a significant proportion of students (25 percent) had earned 72 or more semester hours—well beyond the minimum required for the associate's degree. The reasons for this cannot be determined without knowing the types of community college courses the students completed. Some may have accumulated

Table 2

DISTRIBUTION OF TRANSFER STUDENTS WITHIN QUARTILES BY NUMBER OF SEMESTER-HOUR CREDITS EARNED AT COMMUNITY COLLEGES PRIOR TO TRANSFER

	Quartiles			
	First	Second	Third	Fourth
Semester hours earned by:				
All students	1–49	49–63	63–72	72+
Men	1–47	47–63	63–72	72+
Women	1–50	50–63	63–72	72+
White, non-Hispanic	1–48	48–63	63–72	72+
Black, non-Hispanic	1–36	36–60	60–70	70+
Hispanic	3–50	50–63	63–74	74+
Asian/ Pacific Islander	1–56	56–64	64–74	74+
American Indian/ Alaskan Native	4–56	56–64	64–73	73+
Students transferring to doctorate-granting colleges	2–48	48–63	63–74	74+
Students transferring to non-doctorate granting colleges	1–49	49–63	63–70	70+

Missing data=174 of 15,278 cases

credits in remedial courses before beginning college-level studies; others might have explored various academic or vocational interests before settling on a program of study.

Whatever the reason, the data add to a growing body of evidence that many students spend well beyond the equivalent of two full-time years at community colleges. For example, Palmer and Pugh studied the transcripts of baccalaureate graduates in Virginia

who had attended community colleges at some point during their undergraduate careers: 25 percent had earned between 61 and 151 semester hours while attending community colleges.[8] Garcia's analysis of the academic backgrounds of students receiving associate's degrees from the City Colleges of Chicago yielded similar results: on average, the graduates had earned 82.1 semester hours prior to receipt of the degree.[9]

Table 3

Distribution of Transfer Students by Categories of Community College Semester Hours Earned prior to Transfer

	Number of semester hours earned									
	1–6	7–12	13–24	25–36	37–48	49–60	61–72	73–84	85–96	97+
All students	1.8%	1.8%	4.4%	8.3%	8.7%	18.3%	32.7%	15.6%	4.5%	4.0%
Men	1.7%	1.8%	4.7%	8.9%	9.3%	17.9%	31.0%	15.6%	5.0%	4.2%
Women	1.9%	1.8%	4.2%	7.7%	8.1%	18.6%	34.2%	15.6%	4.0%	3.8%
White, non-Hispanic	1.6%	1.8%	4.5%	8.7%	8.8%	17.8%	33.2%	15.9%	4.1%	3.7%
Black, non-Hispanic	4.6%	3.6%	6.8%	10.2%	10.0%	15.3%	29.7%	11.4%	4.3%	4.1%
Hispanic	2.4%	2.2%	4.7%	5.9%	7.4%	21.7%	29.4%	13.3%	6.5%	6.6%
Asian/Pacific Islander	0.7%	0.2%	2.2%	6.2%	8.5%	21.2%	32.9%	18.5%	6.0%	3.7%
American Indian/ Alaskan Native	0.9%	0.9%	2.6%	7.8%	4.3%	17.4%	40.0%	14.8%	7.8%	3.5%
Transfers to doctorate-granting colleges	1.1%	1.2%	3.7%	8.8%	10.2%	19.1%	27.4%	20.9%	4.3%	3.3%
Transfers to non-doctorate-granting colleges	2.3%	2.2%	4.9%	7.9%	7.6%	17.7%	36.2%	12.0%	4.7%	4.5%

Note: Rows may not total to 100 percent because of rounding.
Missing data=174 of 15,278 cases

The Associate's Degree

Data on attainment of the associate's degree were available for only 73 percent of the transfer students in the sample. Of the students for whom data were available, 37 percent had earned the associate's degree before transferring, suggesting that many of the students who earn 60 or more semester hours at the community college do not complete degree requirements. (See Table 4, page 10.) Reflecting national trends in the characteristics of associate's degree recipients, women in the study sample were more likely than men to have earned the degree, and white students were more likely than minorities to have done so.[10]

The findings also suggest that students who transfer to doctorate-granting institutions are less likely to have earned the associate's degree than those who transfer to non-doctorate granting institutions. Only 28 percent of the students who transferred to doctorate-granting institutions had earned the associate's degree, compared to 43 percent of those who transferred to institutions that do not award the doctorate. The reasons for this are unclear, especially in light of the fact that there appears to be little difference between the students who transfer to doctoral and non-doctoral institutions in terms of the number of credits earned at the community college. (See Tables 2 and 3, pages 6, 8.) Any interpretation of the data must take into consideration the relatively small proportion of students at doctoral institutions (63 percent) for whom data on associate's degree attainment were available; in contrast, the non-doctoral institutions were able to provide information on associate's degree attainment for 80 percent of the students in the study sample.

Table 4

Proportion of Transfer Students Who Earned the Associate's Degree prior to Transfer

	A Total Number	B Number for whom information on associate's degree attainment was available	C Percent of B who earned the associate's degree prior to transfer
All students	15,278	11,200	37%
Men	7,298	5,407	34%
Women	7,980	5,793	41%
White, non-Hispanic	11,663	8,638	40%
Black, non-Hispanic	861	677	33%
Hispanic	1,492	1,097	30%
Asian/ Pacific Islander	1,147	704	25%
American Indian/ Alaskan Native	115	84	39%
Students transferring to doctorate-granting colleges	6,101	3,824	28%
Students transferring to non-doctorate granting colleges	9,177	7,376	43%

Missing data=4,078 of 15,278 cases.

Credits Accepted by Receiving Institutions

Overall, the number of community college credits accepted by the receiving institutions lagged only slightly behind the number of credits earned at the community college. (See Tables 5 and 6, pages 12, 13.) The median number of credits earned was 63, and the median number of credits accepted for transfer by the baccalaureate-granting colleges was 60. This was true for all student groups; variations in the median number of credits accepted by gender, ethnicity, and type of receiving institution (doctoral versus non-doctoral) were small, with medians ranging from 57 to 60.

The high proportion of credits accepted for transfer counters the prevailing notion that four-year institutions do not readily award credit for community college courses. The apparently small loss of credit may suggest that, on average, the transfer students may not have amassed large numbers of remedial credits that cannot be considered college-level work. This hypothesis, if true, supports earlier research concluding that community college students who transfer successfully to baccalaureate-granting institutions have relatively high levels of academic ability and are as academically competent as students who begin their postsecondary studies at four-year institutions.[11]

Table 5

Distribution of Transfer Students within Quartiles by Number of Community College Semester-Hour Credits Accepted for Transfer by Receiving Institutions

	Quartiles			
	First	**Second**	**Third**	**Fourth**
Semester hours accepted for:				
All students	1–44	44–60	60–65	65+
Men	1–43	43–59	59–65	65+
Women	1–47	47–60	60–65	65+
White, non-Hispanic	1–44	44–59	59–64	64+
Black, non-Hispanic	1–32	32–57	57–64	64+
Hispanic	1–47	47–60	60–70	70+
Asian/ Pacific Islander	1–55	55–60	60–70	70+
American Indian/ Alaskan Native	4–49	49–59	59–67	67+
Students transferring to doctorate-granting colleges	1–42	42–59	59–64	64+
Students transferring to non-doctorate granting colleges	1–46	46–60	60–66	66+

Missing data=131 of 15,278 cases

Table 6

Distribution of Transfer Students by Categories of Community College Semester Hours Accepted for Transfer by Receiving Colleges

	Number of semester hours earned									
	1–6	7–12	13–24	25–36	37–48	49–60	61–72	73–84	85–96	97+
All students	1.9%	2.1%	5.4%	9.6%	9.4%	28.3%	34.3%	5.2%	2.3%	1.5%
Men	2.0%	2.2%	5.9%	10.1%	10.4%	27.6%	32.8%	5.1%	2.2%	1.7%
Women	1.8%	2.1%	4.8%	9.1%	8.5%	29.0%	35.7%	5.3%	2.4%	1.4%
White, non-Hispanic	1.6%	2.1%	5.3%	10.1%	9.6%	29.0%	33.8%	4.9%	2.1%	1.6%
Black, non-Hispanic	6.1%	3.5%	9.2%	10.4%	9.5%	19.9%	33.2%	4.0%	2.6%	1.6%
Hispanic	2.9%	2.7%	5.6%	6.6%	8.8%	25.6%	33.8%	8.2%	3.8%	2.0%
Asian/Pacific Islander	0.7%	0.6%	2.7%	7.1%	8.7%	31.4%	40.8%	4.8%	2.5%	0.7%
American Indian/ Alaskan Native	0.9%	0.9%	4.3%	8.7%	9.6%	29.6%	33.9%	8.7%	1.7%	1.7%
Transfers to doctorate-granting colleges	1.4%	1.8%	5.3%	11.1%	11.0%	31.6%	32.1%	3.8%	1.3%	0.7%
Transfers to non-doctorate granting colleges	2.2%	2.3%	5.4%	8.5%	8.4%	26.1%	35.8%	6.1%	3.0%	2.1%

Note: Rows may not total to 100 percent because of rounding.

Missing data=131 of 15,278 cases

Summary and Recommendations

In terms of semester hours earned and transferred to baccalaureate-granting institutions, community colleges played a substantial role in the education of the students included in this study. Though it appears that a substantial minority (37 percent) earned the associate's degree, more than half (57 percent) earned at least 61 semester hours at community colleges; 75 percent accumulated more than 48 semester hours, the equivalent of one and one-half years of full-time study. On average, few credits were lost in the transfer process.

Generalizations from these findings should be considered with caution. The aggregate picture emerging from the study represents the experiences of the 15,278 students sampled in the analysis and undoubtedly masks significant regional and state-by-state variations. The overall findings also mask significant variations in the experiences of individual students.

But while the aggregate findings may not represent the actual experience of any one state, college, or individual, they suggest several suppositions about the role of the community college in baccalaureate education. These suppositions, outlined below, should be tested in future research.

- *For a large proportion of students, especially those seeking entrance to doctorate-granting institutions, the associate's degree does not play a significant role in the transfer experience.* Given the large proportion of transfer students who do not hold the two-year credential, state and institutional investment in the associate's degree

as the sole means of structuring the pre-transfer experience can be questioned. As Cohen and Brawer have noted, the associate's degree track often is an institutional artifact that does not reflect students' actual use of the community college.[12]

- *The limited role of the associate's degree does not necessarily imply that students transfer with fewer than 60 semester hours.* While the study confirmed the prevalence of pre-degree transfer, the length of tenure at the community college was substantial. More than half of the students stayed for the equivalent of two years of full-time study. Viewed from the perspective of these students, then, community colleges are substantial contributors to undergraduate education.[13]

- *In aggregate, few community college credits are lost in the transfer process.* While the situations for individual students may vary considerably, the credit transfer process on the whole appears to be quite efficient. This counters the perception that four-year colleges do not readily accept credits earned at two-year institutions.

- *With the possible exception of black students, race and gender appear not to be crucial determinants of when students transfer.* The distribution of credits earned at the community college varied only slightly along these variables. Black students are a possible exception, however, because they tended to earn fewer community college credits prior to transfer than students in other ethnic categories.

If these suppositions are correct, community college educators can take several steps to better understand and enhance their roles in leading students to the baccalaureate. These steps include the following:

(1) *Individual community colleges should analyze the transfer behavior of their own students to determine when transfer takes place within local contexts.* Because the aggregate data presented here mask

institutional and state variations, they say little about how individual community colleges should structure the pre-transfer experience of their baccalaureate-bound students. Studies of the timing of student transfer between individual two-year and four-year colleges are requisite to local action.

(2) *Given the substantial number of credits their students earn prior to transfer, individual community colleges also should examine how those credits contribute to the content and quality of the total baccalaureate experience.* Such analyses would require consideration of course content and of the ways in which community college courses reinforce the academic skills and knowledge required of baccalaureate graduates. Results of these analyses should be used to develop initiatives that strengthen the community college contribution to baccalaureate studies.

(3) *The study's findings suggest that community colleges should reconsider the ways in which they structure their students' pre-transfer experience. By the same token, four-year colleges should reconsider the ways in which they structure the post-transfer experience.* Renewed commitment to the associate's degree—both as preparation for transfer and as a foundation for post-transfer work at the four-year college—may be warranted if a substantial majority of students earn the degree (or its equivalent) before transferring and if the degree requirements make a significant intellectual contribution to the student's education and subsequent degree attainment. But if substantial numbers of students transfer *before* earning the degree, alternative structures may make the transfer process more efficient. For example, two-year and four-year colleges might structure transfer around an agreed-upon set of competencies students are expected to achieve as they proceed toward the baccalaureate. The students' post-transfer experience could vary, depending on the degree to which these competencies have been mastered.

(4) *Two-year and four-year colleges should reconsider their mechanisms for student transfer and program articulation.* The successful development of alternative structures for the pre-transfer experi-

ence will require community colleges and receiving four-year institutions to explore additional cooperative transfer efforts. Such efforts might include the establishment of a bridge transfer curriculum (involving fewer than 60 semester hours) or the establishment of a joint associate's degree to be awarded after transfer.

(5) *Community college leaders at the national level (perhaps through the American Association of Community Colleges) should follow up on this study with additional analyses of transfer behavior, addressing such issues as the academic success of transfer students, the coursework they pursue, and the implications for educational and policy practice.* At a minimum, these national studies should involve secondary analyses of the U.S. Department of Education's emerging longitudinal databases, such as the Beginning Postsecondary Student Study. This basic work could be augmented by regional or state studies showing the varying patterns of community college involvement in baccalaureate education. Results should be widely disseminated and discussed at professional conferences.

ENDNOTES

1 Kintzer, F.C. and Wattenbarger, J.L. *The Articulation/Transfer Phenomenon: Patterns and Directions*. Washington, DC: American Association of Community and Junior Colleges; Los Angeles: ERIC Clearinghouse for Junior Colleges, 1985; Cohen, A.M. and Brawer, F.B. *The Collegiate Function of Community Colleges*. San Francisco: Jossey-Bass, 1987.

2 Ludwig, M. and Stapleton, L. *The Transfer Point: A Study Report Prepared by the American Association of State Colleges and Universities*, Office of Association Research under contract to the American Council on Education National Center for Academic Achievement and Transfer. Washington, DC: American Association of State Colleges and Universities, 1993.

3 These institutions were from 13 states that enroll more than 70 percent of community college students nationwide: Arizona, California, Florida, Illinois, Maryland, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Texas, and Washington.

4 Anticipating that many of the 50 randomly selected colleges and universities would decline to participate in the study (largely because of the data analysis involved), AASCU identified a set of replacement institutions that were matched with the original 50 by location (state), enrollment size, and degree-granting authority (doctoral versus non-doctoral). Of the 30 institutions that participated in the study, 26 were from the original sample and four were from the set of replacement institutions.

[5] Only those transferees who had not submitted transcripts from other four-year colleges, and who therefore were likely to have started their postsecondary studies at a community college, were included in the analysis. In addition, the four-year colleges and universities were asked to include only those transfer students entering the college or university for the first time. Reverse transfer students (those returning to the baccalaureate-granting institution after a period of attendance at a community college) were not included.

[6] Carnegie Foundation for the Advancement of Teaching. *Classification of Institutions of Higher Education*. Princeton: Carnegie Foundation for the Advancement of Teaching, 1987.

[7] Cohen, A.M. "Celebrating Transfer." Paper presented at the fourth annual Transfer Assembly, Northbrook, IL, June 3–4, 1993. (ED 331 556) The denominator of the transfer rate ratio used in the Transfer Assembly Project includes only those first-time community college students who earn at least 12 college-level (non-remedial) credits within four years of entering the college. Students earning fewer than 12 credits were eliminated from the transfer rate calculation.

[8] Palmer, J.C. and Pugh, M. "The Community College Contribution to the Education of Bachelor's Degree Graduates: A Case Study in Virginia." In J.S. Eaton (Ed.), *Probing the Community College Transfer Function: Research on Curriculum, Degree Completion, and Academic Tasks*. Washington, DC: American Council on Education, 1993.

[9] Garcia, R. "The Long and Winding Road to the Associate's Degree: Stories Transcripts Tell," *Journal of Applied Research in the Community College*, 1994, 2(1): 153–166.

[10] Carpenter, J. *Completions in Institutions of Higher Education, 1986-87*. NCES 90-322. Washington, DC: Office of Educational Research and Improvement, United States Department of Education, 1989.

[11] Lee, V.E. and Frank, K.A. "Students' Characteristics that Facilitate the Transfer from Two-Year to Four-Year Colleges," *Sociology of Education*, 1990, 63(3): 178–193.

[12] Cohen, A.M. and Brawer, F.B. *The Collegiate Function of Community Colleges*. San Francisco: Jossey-Bass, 1987.

[13] This lengthy association with the institution stands in contrast to the experiences of other students for whom community colleges play peripheral roles. For example, Palmer and Pugh found a significant difference in the number of community college semester hours accumulated by two groups of baccalaureate graduates: (1) those who had begun their studies at a community college and (2) those who had begun their post-secondary studies at a four-year college and attended a community college concurrently or as reverse transfer students. The median number of community college semester hours earned by students in the former category was approximately 50, while the median number of community college semester hours earned by students in the latter category was only about 25; many in the latter category were four-year college students who enrolled at community colleges in the summer to take one or two courses that would help fulfill degree requirements (Palmer and Pugh, op. cit., p. 65).

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